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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

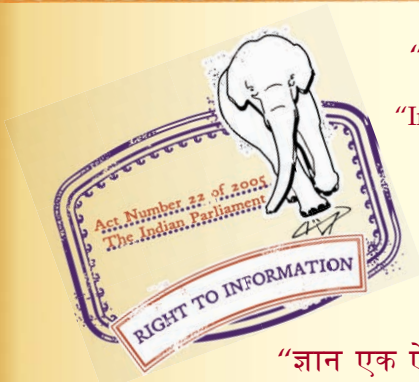
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS/ISO 9180 (1988): Black Leads for Wood-Cased Pencils - Classification and Diameters [PGD 22: Educational Instruments and Equipment]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

लकड़ी के केसों वाली पेंसिलों के लिए काला
सीसा — वर्गीकरण और व्यास

Indian Standard

**BLACK LEADS FOR WOOD-CASED PENCILS —
CLASSIFICATION AND DIAMETERS**

ICS 01.100.40

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 9180 : 1988 'Black leads for wood-cased pencils — Classification and diameters', issued by International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on the recommendation of the Optical and Mathematical Instruments Sectional Committee (LM 20) and approval of the Light Mechanical Engineering Division Council.

Black leads are classified according to their hardness degree which is also an indicator of line density. The standard classifies hardness degree into 17 types and corresponding diameters of lead have also been specified.

The text of ISO standard has been approved as suitable for publication as Indian Standard without deviation. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards the current practice is to use a point (.) as the decimal marker

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

Indian Standard

BLACK LEADS FOR WOOD-CASED PENCILS — CLASSIFICATION AND DIAMETERS

1 Scope

This International Standard specifies a classification and diameters for black leads used for wood-cased pencils.

2 Definitions

For the purposes of this International Standard, the following definitions apply.

2.1 black lead: Solid writing material which consists of carbon (e.g. graphite) and a binding agent. The lead generates black lines which are erasable.

2.2 hardness degree: Classification indicating increasing hardness from 6B to 9H and increasing line density from 9H to 6B.

NOTE — A scientific definition of hardness degree is not yet available.

2.3 wood-cased pencil: Hand-held drawing tool which has the lead permanently secured in a wood case and which is capable of withstanding the force involved in drawing.

3 Classification

Leads shall be classified according to their hardness degree into the following 17 types:

9H, 8H, 7H, 6H, 5H, 4H, 3H, 2H, H, F, HB, B, 2B, 3B, 4B, 5B and 6B

4 Diameters

Lead diameters shall be as specified in table 1.

Table 1 — Diameters

Hardness degree (see 2.2)	Diameter mm
9H, 8H, 7H, 6H, 5H, 4H, 3H, 2H, H	> 1,8
F, HB, B, 2B, 3B, 4B, 5B, 6B	> 2

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